

D. Remarks

The claims are 1-8, 10-18 and 20-28, with claims 1, 16, 24, 25, 27 and 28 being independent. Claims 1, 16, 24 and 25 have been amended to clarify the present invention. Claims 24 and 25 have also been amended to correct typographical errors. Support for this amendment may be found throughout the specification. No new matter has been added. Reconsideration of the claims is expressly requested.

Claims 1-8, 10-18 and 20-28 stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by U.S. Patent No. 6,306,643 (Gentalen). The grounds of rejection are respectfully traversed.

Prior to addressing the merits of rejection, Applicants would like to briefly review some of the key features and advantages of the presently claimed invention. In the present invention: (i) the probe spots are arranged on a substrate divided into plural groups; (ii) hybridization signal is not measured for each probe spot (cell) but integral intensity is determined for each group; and (iii) the obtained pattern of signal intensities is used to determine the presence or absence of a certain acid (gene) in a sample. Each probe is fixed on the substrate as a separate probe spot. The probe spots are grouped and fixed in separate regions according to the types of probes, and the signal intensity of each region (total intensity of spots in the region) is determined. Thus, the present invention provides a method and an array substrate suitable for mass screening, allowing to rapidly determine only the presence or absence of a gene variant, without the need for an expensive apparatus and complex analysis.

Gentalen discloses a DNA chip having at least three regions (cells), one containing a pool (mixture) of two kinds of probes, with the other two regions each

containing only one of these two probes. Then, signal intensity is determined for each cell by using a scanning confocal microscope. When a target nucleic acid binds to both probes, the signal intensity from the pooled probe region is stronger than the added signals of other two probe regions.

The Examiner has alleged that the claims do not exclude the pooled probe region disclosed by Gentalen. Applicants respectfully disagree.

The present claims indicate that probes spots are grouped such that each region contains probes not found in the other regions. Clearly, this excludes the pooled region used in Gentalen, which requires at least two regions to contain the same type of probes.

Thus, Gentalen does not disclose or suggest determining signal intensity of groups of probe spots as presently claimed to obtain an intensity pattern, which is used to determine the presence or the absence of a certain sequence. Accordingly, Gentalen cannot affect the patentability of the presently claimed invention.

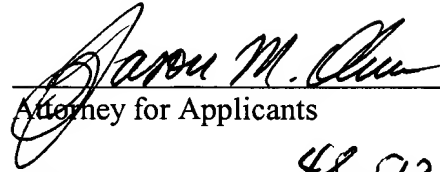
Wherefore, Applicants respectfully request that the outstanding rejection be withdrawn and that the present case be passed to issue.

This Amendment After Final Rejection should be entered, because it places the case in allowable form. Alternatively, it places the case in better form for possible appeal.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our

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Respectfully submitted,



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